



Marine Geology & Geophysics Equipment Status

Published: Tuesday, October 25, 2005

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System Bathymetry

VENDOR	MODEL	DESCRIPTION	STATUS	SPARES	LOCATION	Retro'd	COMMENTS
ODEC	Bathy 2000	3.5 and 12 kHz Sonar	Operational	A Knudsen 320 B/R system	Nathaniel B. Palmer	<input type="checkbox"/>	Upgraded to a Bathy W with a 8.3 KW transmitter in October 2001
ODEC	Bathy W	3.5 and 12 kHz 10 KW Sonar	Operational	Knudsen 320 B/R	Nathaniel B. Palmer	<input type="checkbox"/>	
Simrad	EK-500	Single-beam "fish-finding" sonar equipped with three frequency ranges: 38, 120, 200 kHz	Operational	No	Nathaniel B. Palmer	<input type="checkbox"/>	
Knudsen	320 B/R	3.5 and 12 kHz Sonar	Operational	Yes--Bathy 2000 Backup System (NBP) and full spares kit	Nathaniel B. Palmer	<input type="checkbox"/>	
Knudsen	320 B/R	3.5 and 12 kHz Sonar	Operational	Yes--full spares	Laurence M. Gould	<input type="checkbox"/>	
Simrad	EM120	Multibeam sonar system	Operational	Spare parts are the responsibility of ECO, although RPSC maintains a SUN Ultra 10 system to serve as a spare for the EM120 system console	Nathaniel B. Palmer	<input type="checkbox"/>	The EM-120 was installed in July 2002 to replace the SeaBeam 2112. The Simrad is fully operational and provides significantly improved performance and coverage over the SeaBeam system. The amount of data or ping editing required has been reduced dramatically.
Datasonics	SIS-1000	Sidescan/sub-bottom profiler	Operational	Yes--Full set of spares for towfish and deck unit	Lyttelton, NZ	<input type="checkbox"/>	



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System Coring

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Kahl Scientific Instruments	Smith-Macintyre	Grab Sampler	Operational	Yes--Two Backups	Nathaniel B. Palmer	<input type="checkbox"/>	Two units--Two stainless steel Grabs and one non-stainless Grab. Spare units are in the Punta Arenas Warehouse
Accurate Machine Works	N/A	Standard Piston Core	Operational	Yes--Four coring heads plus the hardware that it take to get this operational are onboard	Nathaniel B. Palmer	<input type="checkbox"/>	
Ocean Scientific	Mega Core	Corer takes many small undisturbed cores	Operational	Yes	Punta Arenas, Chile	<input type="checkbox"/>	
Woods Hole Oceanographic Institute (WHOI)	N/A	Jumbo Piston Core	Operational	Yes--Three core heads, six trigger arms, 200-meter releases and all necessary hardware for the Jumbo Piston Core.	Nathaniel B. Palmer	<input type="checkbox"/>	There is enough equipment to build three 80-foot core systems. When used with the rail deployment system the maximum core length is limited to 50 feet.
Ocean Scientific	Box Core (.25 square meter)	Sediment sampling (0.25 m2 surface), for surface sediment sampling	Operational		Punta Arenas, Chile	<input type="checkbox"/>	



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System *DAS*

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RPSC	RV-DAS	Linux-based DAS	Operational	Fully redundant hot spare/backup with additional critical spares (Disks, power supplies, memory, etc.)	Both Vessels	<input type="checkbox"/>	

System *Gravity*

<i>VENDOR</i>	<i>MODEL</i>	<i>DESCRIPTION</i>	<i>STATUS</i>	<i>SPARES</i>	<i>LOCATION</i>	<i>Retro'd</i>	<i>COMMENTS</i>
LaCoste & Romberg	Air-Sea Gravity Meter	Gravimeter	Operational	Yes--spare boards and power supplies	Nathaniel B. Palmer	<input type="checkbox"/>	The meter was sent to the vendor for upgrade following NBP04-03 in May 2004. The table was returned to the NBP in mid-December 2004.



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System *Magnetics*

<i>VENDOR</i>	<i>MODEL</i>	<i>DESCRIPTION</i>	<i>STATUS</i>	<i>SPARES</i>	<i>LOCATION</i>	<i>Retro'd</i>	<i>COMMENTS</i>
E G & G	G-866	Proton Precession Magnetometer	Operational- data noisy- Retrograded	Two complete systems.	Removed/Retrograded	<input checked="" type="checkbox"/>	Retrograded.
E G & G	G-811	Gradiometer	Operational	Yes--spare boards and tow cable termination kits. New Cable and repaired splitter are onboard the Nathaniel B. Palmer.	Removed/Retrograded	<input checked="" type="checkbox"/>	Retrograded out of the USAP after NBP03-04D in October 2003.
Geometrics	G-877	Proton Precession Magnetometer	Operational	No	Nathaniel B. Palmer	<input type="checkbox"/>	Arrived and tested in October 2003. Operational.

System *Navigation*

<i>VENDOR</i>	<i>MODEL</i>	<i>DESCRIPTION</i>	<i>STATUS</i>	<i>SPARES</i>	<i>LOCATION</i>	<i>Retro'd</i>	<i>COMMENTS</i>
Simrad	Seapath 200	Primary navigation for Simrad EM-120 and all other systems on the NATHANIEL B. PALMER. Provides pitch, roll, position, speed, acceleration and heading data to the EM-120. The Seapath data are currently logged to RV-DAS.	Operational	Fully redundant systems	Nathaniel B. Palmer	<input type="checkbox"/>	Both systems are fully operational as of NBP05-02.



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System *Other*

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Benthos		Benthic Camera	Operational	batteries	Nathaniel B. Palmer	<input type="checkbox"/>	This is an analog system, with images stored on film. No real-time viewing of sea-floor during a deployment is available.
Shaftstall Corp.	Quickcopy	Multiple-copy tape duplication system	Operational with new DDS-4 tape drives	spare tape drives, general PC spares (motherboards, memory, drives, etc.)	Nathaniel B. Palmer	<input type="checkbox"/>	Has port for attaching an external SCSI drive.

System *Plotters*

<i>VENDOR</i>	<i>MODEL</i>	<i>DESCRIPTION</i>	<i>STATUS</i>	<i>SPARES</i>	<i>LOCATION</i>	<i>Retro'd</i>	<i>COMMENTS</i>
EPC	9802	Thermal Plotter	Operational	Yes--spares	Laurence M. Gould	<input type="checkbox"/>	Film and paper are onboard
EPC	1086	Thermal Plotter	Operational	No. EPC 9800 plotters can be used to fulfill this function.	Laurence M. Gould	<input type="checkbox"/>	Film and paper are onboard
EPC	1086	Thermal Plotter	Operational	No. EPC 9800 plotters can be used to fulfill this function.	Nathaniel B. Palmer	<input type="checkbox"/>	Film and paper are onboard
Raytheon/Ocean Data Equipment Corp.	TDU-850	High Resolution thermal plotter for Bathy 2000	Operational	No	Nathaniel B. Palmer	<input type="checkbox"/>	
EPC	9802	Thermal Plotter	Operational	The NBP has three 9802's and spares	Nathaniel B. Palmer	<input type="checkbox"/>	Film and paper are onboard



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System Seismic

VENDOR	MODEL	DESCRIPTION	STATUS	SPARES	LOCATION	Retro'd	COMMENTS
Syntron	RCL-3	Cable-levelling Birds for Multi- Channel Streamers	Birds are failing and are no longer repairable or supported by manufacturer. Obsolete system.	Yes	Nathaniel B. Palmer	<input checked="" type="checkbox"/>	Once the new system Digicourse cable leveling system was up and running the RCL-3 system was retrograded from the USAP inventory.
Benthos	15/10 P	Oil-filled Single-Channel Streamer Cable	Operational, but should be used as a backup to the ITI streamer.	Yes--a spares toolkit including three hydrophones, a pre-amp and all necessary tools, spare skin.	Nathaniel B. Palmer	<input type="checkbox"/>	Damaged on NBP05-02. Not functional.
Syntron	GCS-90	Seismic Gun Controller	Operational	Yes--spare fire control and cycle control boards	Nathaniel B. Palmer	<input type="checkbox"/>	
Bolt	1500LL	Up to six guns may be used at once. Available gun volumes are one each of 1000, 800, 500, 450, 400, 350, 300, 200, 145, and 80 cu In.	Operational	Yes--Spare parts	Nathaniel B. Palmer	<input type="checkbox"/>	In Seismic Van.
Triton Elics International	TEI 1000	48-channel seismic data logger. This equipment is the shared responsibility of the IT and ET personnel. Refer to the Triton Elics entry under the ET section for more information.	Operational	Full redundant disk with critical spares inventory	Nathaniel B. Palmer	<input type="checkbox"/>	



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Digicourse	5010	12-bird Cable-levelling system for Multi- Channel Streamers	Operational	Yes	Nathaniel B. Palmer	<input type="checkbox"/>	In Seismic Van. The old Syntron RCL-3 system has been retrograded from the USAP inventory.
Greeneridge Sciences		VHF Radio for sonabuoy reception	Operational	No.	Nathaniel B. Palmer	<input type="checkbox"/>	Primary system. Yaesu receiver is backup.
S/N Technologies		48 channel analog solid streamer w/ bird coils, 8 sections @ 150m	Operational	O-rings	Lyttelton, NZ	<input type="checkbox"/>	Several cracks have formed in the streamer jacket that go all the way down to the Kevlar strain member. This cable will need to be repaired or replaced before the next cruise needing a multi-channel streamer.
Yaesu		VHF Radio for sonabuoy reception	Operational	No.	Nathaniel B. Palmer	<input type="checkbox"/>	Backup to Greeneridge Science Receiver
LMF (NBP)	N/A	Seismic Air Compressors	Operational	Yes--Dual Compressors	Nathaniel B. Palmer	<input type="checkbox"/>	
S/N Technologies	Stealtharray	Seismic streamer cable; 1200 meter, 48 Channel Cable w/ 300 M lead-in	Operational (see comments)	No	Nathaniel B. Palmer	<input type="checkbox"/>	
Seismic Systems	N/A	1 G.I. Water Gun--15 cu In.	Operational	Yes--Spare Parts	Nathaniel B. Palmer	<input type="checkbox"/>	In Seismic Van.
Oyo	DAS-1	Seismic Recording System	Operational	Two complete Oyo DAS-1 units and spares	Nathaniel B. Palmer	<input type="checkbox"/>	Two Fujitsu 3490 tape drives are available for using the OYO's in standalone mode.
Seismic Systems	N/A	6 G.I. Seismic Air Guns--210cu. In.	Operational	Yes--Spare parts	Nathaniel B. Palmer	<input type="checkbox"/>	In Seismic Van.
Innovative Transducers, Inc.	Stealtharray	Single-Channel Streamer Cable	Operational	Yes--Spare hydrophones and pre-amplifier kit	Nathaniel B. Palmer	<input type="checkbox"/>	Tested on NBP05-02. Works well.



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Triton Elics International	Delph Seismic	Seismic data logger networked to the Oyo-DAS1. Data is logged in SEG Y format to the Triton PC hard drive.	Operational	None for the Triton Elics. The two Oyo DAS-1 units can be operated standalone if necessary.	Nathaniel B. Palmer	<input type="checkbox"/>	Replaced Lookout Geophysical data logger in October 2002.
ASA	N/A	Fix box	Operational	Yes. Backup system	Nathaniel B. Palmer	<input type="checkbox"/>	
Price (LMG)	N/A	Seismic Air Compressors-LMG	Removed	Removed-spares will be available	Laurence M. Gould	<input type="checkbox"/>	These compressors were removed from the LMG in Port Fourchon, Louisiana in 2004.

System Winches

<i>VENDOR</i>	<i>MODEL</i>	<i>DESCRIPTION</i>	<i>STATUS</i>	<i>SPARES</i>	<i>LOCATION</i>	<i>Retro'd</i>	<i>COMMENTS</i>
State University of New York and Ocean Instruments	N/A	Kasten Core (2 ea)	Operational	Yes. Six cutter noses, three heads, and six core barrels	Nathaniel B. Palmer	<input type="checkbox"/>	
Markey (winches) Rochester/ McWhyte (tow cables)	DUSH 4 DUSH 5 DUSH 11	LMG Winches and Cable	Operational	N/A	Laurence M. Gould	<input type="checkbox"/>	Winch Capacities: Dush 4-7,000m of .322" Electro-mechanical or 1/4" mechanical cable; Dush 5-10,000m of .322" EM cable; Dush 11-5,000m of .680" EM or 7300m of 9/16" mechanical cable.
Markey (winches) Rochester/ McWhyte (tow cables)	DUSH 5; DUSH 5-5; Two DUSH 9-11 winches	NBP Winches and Cable	Operational	Yes	Nathaniel B. Palmer	<input type="checkbox"/>	Winch Capacities: Dush 5-10,000m of .322" Electro-mechanical cable; Dush 5-5-10,000m of .322" EM or 5/16" Mechanical; Dush9-11-10,000m of .680 EM or 9/16" mechanical cable.